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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/563,559

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Jifeng Li

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EXAMINER

HA, DAC V

ART UNIT

PAPER NUMBER

2611

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,559	Applicant(s) LI, JIFENG	
	Examiner Dac V. Ha	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. **Claims 1-6** are objected to because of the following informalities: the claim identifier in claims 1-6 should be changed to a proper form (i.e. "1.").

Appropriate correction is required.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. **Claims 1, 6** provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of copending Application No. 10/581,032 in view of Pan et al. (US 2003/0110438) (hereafter Pan).

Claims 1 and 6 of the present application recites a forward probability calculation, backward probability calculation and joint probability calculation for predetermined window. Claim 1 and 4 of Application 10/581,032 recites either the backward probability

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calculation or forward probability calculation. Claim 1 of the present application does not recite storage for storing the backward probability or forward probability. However, the use of forward probability, which is ultimately used for combining with the backward probability to calculate the joint probability, or vice versa, would have been obvious to one skilled in the art to provide more reliability for decoding the signal. Further, since calculating the joint probability at the current time from the combined of forward and backward probability (in opposite time direction), a memory is needed for storing all previous probabilities and later probabilities (as conventionally shown in Pan, Fig. 3, elements 34, 35; para. 0014.)

This is a provisional obviousness-type double patenting rejection.

4. **Claims 2-5** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4 of copending Application No. 10/581,032 in view of Pan and Blankenship et al. (US 6,952,457) (hereafter Blankenship).

In addition to that claim 1 is obvious to one skilled in the art over Application No. 10/581,032 in view of Pan, as stated above, the further claimed subject matter in claims 2-5 are disclosed in Blankenship (see the rejection of claims 2-5 follows). Therefore, it would have been obvious to one skilled in the art to incorporate the use of training data in Blankenship into the aforementioned combination to provide initialization for the probability calculation and utilized the decoding in either base station or mobile station for maximizing the utilization of the improved decoding method.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 6 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. According to the USPTO current guidance, a process, the computing steps in this case, must be tied to another statutory class (such as a particular apparatus) to meet the requirement for a patent eligible process under § 101.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1-6** are rejected under 35 U.S.C. 102(e) as being anticipated by Blankenship et al. (US 6,952,457) (hereafter Blankenship).

Re claim 1, Blankenship discloses:

“A decoding apparatus that performs decoding computations on a window of a predetermined size in parallel in a plurality of processing systems, comprising:

a forward probability computing section that sequentially computes a forward probability at a current time point from the forward probability at an earlier time point by the number of the plurality of processing systems in the window” (Fig. 4, element 400;

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Fig. 1; col. 2, lines 52-58; col. 3, line 4, 34; col. 1, lines 25-38; col. 2, lines 45-50; col. 3, lines 13-18; Fig. 2, element 225; col. 4, lines 50-52);

“a backward probability computing section that sequentially computes a backward probability at a current time point from the backward probability at a later time point by the number of the plurality of processing systems in the window” (Fig. 2, element 230; col. 4, lines 53-55; col. 3, lines 18-24);

“a likelihood computing section that computes likelihood information using the forward probability and the backward probability” (Fig. 4, element 235; col. 4, lines 60-62; col. 3, lines 53-64).

Re claim 2, Blankenship further discloses “the backward probability computing section computes the backward probability at the current time point using data at a later time point that the window as training data” in col. 3, lines 34-39.

Re claim 3, Blankenship further discloses “wherein the backward probability computing section uses common training data in the plurality of processing systems” in col. 3, lines 24-39; col. 5, lines 3-5, 21-22, wherein the same training data is utilized for all probability calculation.

Re claim 4, Blankenship further discloses “A base station apparatus having the decoding apparatus according to claim 1” in col. 2, lines 39-44, wherein Blankenship discloses decoding the information burst, which received by the base station.

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Re claim 4, Blankenship further discloses "A mobile station apparatus having the decoding apparatus according to claim 1" in col. 2, lines 39-44, wherein Blankenship discloses decoding the information burst, which received by the cellular device station.

Re claim 6, see corresponding apparatus claim 1 above.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Li (US 2007/0113144)

Xu (US 7,246,295)

Nieminen (US 2003/0154441)

Obuchi et al. (US 6,563,890)

Blankenship (US 7,027,531)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 571-272-3040. The examiner can normally be reached on 4/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dac V. Ha/
Primary Examiner, Art Unit 2611